CLAIMS

1. A method of rendering colours in a printing system using a set of colorants, including, for each colour to be rendered, a selection of a subset of colorants and for each colorant of said subset, a selection of a halftone screen and a coverage fraction, the method comprising steps:

defining discrete colour points in at least a portion of a colour space;

determining for the defined discrete colour points, different subsets of colorants and associated coverage fractions thereof, rendering each of said colour points, and calculating for each of said subsets an associated graininess value;

determining lists of colorant subsets rendering the defined discrete colour points, said lists being consistent with respect to the attribution of a halftone screen to a colorant within a subset over said portion of the colour space; and

selecting one of said lists of subsets of colorants on the basis of a total graininess calculated for said lists.

2. The method of rendering colours according to claim 1, wherein a list of colorant subsets is consistent with respect to the attribution of a halftone screen to a colorant within a subset over said portion of the colour space if

a halftone screen associated to a colorant in a subset rendering a first colour point is associated to the same said colorant, if present, in a subset rendering a neighboring colour point of said first colour point.

3. The method of rendering colours according to claim 1, wherein a list of colorant subsets is consistent with respect to the attribution of a halftone screen to a colorant within a subset over said portion of the colour space if

a halftone screen associated to a colorant in a subset rendering a first colour point is associated to the same said colorant, if present, in a subset rendering a neighboring colour point of said first colour point, and if,

in the case that a same halftone screen is associated to a first colorant in a subset rendering a colour point and to a different second colorant rendering a neighbouring colour point of first said colour point,

the coverage fractions of the first and second colorants are each less than a threshold coverage fraction.

4. The method of rendering colours according to claim 1, wherein the calculated total graininess for a list is a combination of the graininesses calculated for each discrete colour point of the considered portion of the colour space.

5. The method of rendering colours according to claim 4, wherein the calculated graininess for each discrete colour point of the considered portion of the colour space is a combination of the partial graininesses of each colorant in the subset of colorants rendering said discrete colour point.

6. The method of rendering colours according to claim 1, wherein the selected list is the list showing the minimum calculated graininess.

7. The method of rendering colours according to claim 4, wherein the selected list is the list showing the minimum calculated graininess.

8. The method or rendering colours according to claim 5, wherein the selected list is the list showing the minimum calculated graininess.

9. The method of rendering colours according to claim 6, wherein the calculated graininess for a list of colorant subsets rendering the defined discrete colour points is obtained by a mathematical model in which the partial graininess for a colorant in a subset rendering a colour point is a function of the coverage fraction of said colorant.

10. The method of rendering colours according to claim 7, wherein the calculated graininess for a list of colorant subsets rendering the defined discrete colour points is obtained by a mathematical model in which the partial graininess for a colorant in a subset rendering a colour point is a function of the coverage fraction of said colorant.

11. The method of rendering colours according to claim 1, wherein the calculated graininess for a list of colorant subsets rendering the defined discrete colour points is obtained by a mathematical model in which the partial graininess for a colorant in a subset rendering a colour point is a function of the coverage fraction of said colorant.

12. The method of rendering colours according to claim 4, wherein the calculated graininess for a list of colorant subsets rendering the defined discrete colour points is obtained by a mathematical model in which the partial graininess for a colorant in a subset rendering a colour point is a function of the coverage fraction of said colorant.

13. The method of rendering colours according to claim 5, wherein the calculated graininess for a list of colorant subsets rendering the defined discrete colour points is obtained by a mathematical model in which the partial graininess for a colorant in a subset rendering a colour point is a function of the coverage fraction of said colorant and wherein the selected list is the list showing the minimum calculated graininess.

14. A printing system rendering colours by selecting subsets of colorants rendering said colours, and halftone screens associated to said colorants in the subset, the system comprising:

means for defining discrete colour points in at least a portion of a colour space;

means for determining for the defined discrete colour points, different subsets of colorants and associated coverage fractions thereof, rendering each of said colour points, and calculating for each of said subsets an associated graininess value;

means for determining lists of colorant subsets rendering the defined discrete colour points, said lists being consistent with respect to the attribution of a halftone screen to a colorant within a subset over said portion of the colour space; and

means for selecting one of said lists of subsets of colorants on the basis of a total graininess calculated for said lists.

15. The printing system according to claim 14, further comprising a memory unit wherein a list of subsets of colorants rendering the colour points, the halftone screens associated thereto and coverage fraction of the said colorants are stored in a look-up table.

16. The printing system according to claim 14, wherein a list of colorant subsets is consistent with respect to the attribution of a halftone screen to a colorant within a subset over said portion of the colour space if

a halftone screen associated to a colorant in a subset rendering a first colour point is associated to the same said colorant, if present, in a subset rendering a neighboring colour point of said first colour point.

17. The printing system according to claim 14, wherein a list of colorant subsets is consistent with respect to the attribution of a halftone screen to a colorant within a subset over said portion of the colour space if

a halftone screen associated to a colorant in a subset rendering a first colour point is associated to the same said colorant, if present, in a subset rendering a neighboring colour point of said first colour point, and if,

in the case that a same halftone screen is associated to a first colorant in a subset rendering a colour point and to a different second colorant rendering a neighbouring colour point of first said colour point,

the coverage fractions of the first and second colorants are each less than a threshold coverage fraction.

18. A computer program product embodied on at least one computer-readable medium, for rendering colours in a printing system using a set of colorants, including, for each colour to be rendered, a selection of a subset of colorants and for each colorant of said subset, a selection of a halftone screen and a coverage fraction, the computer program product comprising computer-executable instructions for:

defining discrete colour points in at least a portion of a colour space;

determining for the defined discrete colour points, different subsets of colorants and associated coverage fractions thereof, rendering each of said colour points, and calculating for each of said subsets an associated graininess value;

determining lists of colorant subsets rendering the defined discrete colour points, said lists being consistent with respect to the attribution of a halftone screen to a colorant within a subset over said portion of the colour space; and

selecting one of said lists of subsets of colorants on the basis of a total graininess calculated for said lists.

19. The computer program product according to claim 18, wherein the calculated total graininess for a list is a combination of the graininesses calculated for each discrete colour point of the considered portion of the colour space.